

MANVI GUPTA

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EDUCATION

RWTH Aachen University, Germany

RWTH Exchange Worldwide Scholarship Recipient (DAAD)

October 2019 - February 2020

Overall Grade: 9.25/10

Indian Institute of Technology(IIT) Mandi

Bachelor of Technology (B.Tech.)

Computer Science & Engineering

August 2017 - July 2021

CGPA: 9.25/10

TECHNICAL STRENGTHS

Computer Languages

C, C++, Python, Java, Scheme(Lisp), Haskell

Web Technologies

HTML, CSS, Flask, PHP

Machine Learning

Keras, Tensorflow, PyTorch, SciKit-Learn, MLflow

Familiar Technologies

MySQL, Hadoop, OpenCV, OpenMP, Git, Redmine

WORK EXPERIENCE

Software Development Engineer - Adobe Systems India

Jul 2021 - Present

Working on ML platform management in the Sensei team of the Cloud Technology Unit at Adobe.

Engineering Manager - Furrble¹

Dec 2020

Managed the technical team to build an Android App for Furrble using Flutter and Go.

Product Intern - Adobe Systems India

May 2020 - July 2020

Built a Machine Learning pipeline on a distributed Kubernetes Platform & developed a POC for MLflow & Kubeflow capabilities.

Received *Pre-Placement Offer* for full time role as Member of Technical Staff based on excellent performance during the internship.

Software Administrator - Book Nook IIT Mandi

Aug 2018 - Sept 2019

Refactored and maintained the Book Renting Software of Recreational Library at IIT Mandi.

PROJECTS

MUTUAL INFORMATION ESTIMATION IN DNNs

September 2020 - Present

Major Technical Project

Dr. Samar Agnihotri

- **Task:** Implemented the Ensemble Dependency Graph Estimator (EDGE) for Scalable Mutual Information Estimation to get MI trends, and compared the results with that from HSIC criterion.
- **Goals:** To compare different algorithms for the closest estimate of mutual information across hidden layers in a Deep Neural Network and prove/disprove the Information Bottleneck Principle.

CALL TREE REVERSAL

October 2019 - February 2020

Using Mixed Integer Programming

Prof. Dr. Uwe Naumann

- **Learning** Learnt about checkpointing Function Call Trees using Algorithmic Differentiation to increase program efficiency.
- **Use case:** Debugging (in high-performance scientific computing in particular), Adjoint Model computation in Algorithmic Differentiation

¹A Bangalore based start-up

CIF VALIDATOR WITH REST API

April 2019 - June 2019

A real world tool to validate Crystallographic Information Files (CIF)

Dr. Arti Kashyap

- **Task:** Worked in a team of 3 to make a functional RESTful API for validating CIF files.
- CIF File is parsed using PyCODCIF and the frontend is built upon Barebone framework.
- **Collaboration:** In collaboration with the material science group at EPFL Switzerland. The tool is to be integrated on materialscloud.org.

ADHD DISEASE DETECTION

January 2019 - February 2019

Deep Learning

Dr. Aditya Nigam

- Implemented a Neural Network model to classify **fMRI images** into 10 different components of human brain & find the correlation coefficients.
- **Challenges faced:** Small Data Set & limited knowledge of brain anatomy
- **Technologies Used:** Keras, Tensorflow

RELEVANT COURSEWORK

Mathematical Foundation of Computer Science
Information and Database Systems
Advanced Data Structures and Algorithms
Computer Organization
Operating Systems & Computer Networks

Machine Learning
Paradigms of Programming
Satisfiability Checking
High Performance Computing
Compiler Design & Program Analysis

POSITION OF RESPONSIBILITY

Founder Coordinator, ACM-W Chapter IIT Mandi

Chairperson, August 2019 - August 2020

- Officially set up the new community. Guided girl students about opportunities in the field of computing and connect the students to women leaders of the world.

Undergraduate Teaching Assistant

- *Paradigms of Programming (Feb. 2021 - June 2021)*
- *Data Science III (Sep. 2020 - Dec. 2020)*
- *Information & Database Systems (Feb. 2020 - Sep. 2020)*

SEMINARS & WORKSHOPS ATTENDED

ACM India Summer School

Cyber Security and Data Analytics

IIT Delhi

July 2019

- Learnt about security concerns on Social Media, and Cryptographic techniques used in SSL.
- Also got introduced to Natural Language Processing, as a method of encryption-decryption.

ACADEMIC & EXTRA-CURRICULAR ACHIEVEMENTS

- Winner of *Hacking the Google Maps*, online competition by Heuristics IIT Mandi, in May 2020.
- Runner up in Astronomy Club Hackweek-2018 held at IIT Mandi.
- Winner of Intra College Diwali Photography Competition 2017.
- First, among the 7 teams from the college in Flipkart GRiD Machine Learning challenge.
- Represented IIT Mandi at Inter IIT Cultural Meet 2017, at IIT Kanpur.
- Ranked in All-India Top 1% (amongst 11,86,000 candidates) in JEE Mains 2017 and Top 2.8% (amongst 1,59,540 candidates) in IIT-JEE Advanced 2017
- Qualified National Talent Search Examination(NTSE) 2015 stage 1.